

ASSIGNMENT 1

Textbook Assignment: "Dental Radiology," chapter 1, pages 1-1 through 1-42.

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| <p>1-1. Which of the following scientists first discovered X-rays?</p> <ol style="list-style-type: none">1. Wilhelm Konrad Roentgen2. Doctor H. G. Gama3. Doctor Otto Proton4. Raymond Cathode <p>1-2. What is the basic difference between X-rays and other electromagnetic rays?</p> <ol style="list-style-type: none">1. Electromagnetic rays travel in wave motion2. X-rays are invisible3. X-rays are visible4. Their wavelengths differ <p>1-3. Which of the following is NOT a characteristic or property of X-rays?</p> <ol style="list-style-type: none">1. They travel in straight lines2. They travel at the speed of sound3. They cause irritation to living cells4. They cause certain substances to fluoresce <p>1-4. Which of the following factors control the density of an X-ray image?</p> <ol style="list-style-type: none">1. Kilovoltage (kVp)2. Milliamperage (mA)3. Target film distance (TFD)4. All of the above <p>1-5. Which of the following personnel are authorized to order and diagnostically interpret dental radiographs?</p> <ol style="list-style-type: none">1. Dental X-ray technicians2. Front desk personnel3. Dental officers4. Dental technicians | <p>1-6. When taking radiographs, always drape the patient with a lead apron.</p> <ol style="list-style-type: none">1. True2. False <p>1-7. What speed of film is most commonly used for dental radiographs?</p> <ol style="list-style-type: none">1. Fast2. Slow3. Mega4. Average <p>1-8. The environmental film badge should be placed behind the lead-lined barrier at least what number of feet from the tube head?</p> <ol style="list-style-type: none">1. 102. 63. 84. 4 <p>1-9. Which of the following is NOT a safety precaution for taking radiographs?</p> <ol style="list-style-type: none">1. Always stand behind a lead screen during an exposure2. Never stand in the path of the central X-ray beam during exposure3. Never hold the tube head or the tube head cylinder of the X-ray machine during exposure4. Hold the film packet in the patient's mouth during exposure if necessary <p>1-10. In the dental treatment facility, which of the following types of dental X-ray units are most commonly used?</p> <ol style="list-style-type: none">1. Ceiling-mounted2. Floor-mounted3. Wall-mounted4. Portable |
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- 1-11. The lead diaphragm restricts the X-ray beam to what size?
1. 2 inches
 2. 2.6 inches
 3. 2.75 inches
 4. 3 inches
- 1-12. What is the first task each day that a radiology technician should perform?
1. Turn on the automatic processor
 2. Set the kilovoltage (kVp) on the X-ray machine
 3. Turn on the X-ray machine and perform the operational check
 4. Take the positioning devices out of the germicidal agent
- 1-13. The time setting on the X-ray machine is measured by using which of the following methods?
1. Minutes or impulses
 2. Minutes or milliamperes
 3. Fractions of a second or milliamperes
 4. Fractions of a second or impulses
- 1-14. When exposing a radiograph, you should stand behind a lead-lined shield and at least what number of feet from the tube head?
1. 10
 2. 6
 3. 8
 4. 4
- 1-15. Which of the following procedures should be included in the daily maintenance of the X-ray machine?
1. Dusting
 2. Cleaning with a cloth moistened with detergent solution
 3. Both 1 and 2 above
 4. Cleaning with a cloth moistened with solvent
- 1-16. You should attempt to complete all X-ray repairs yourself.
1. True
 2. False
- 1-17. What are the types of X-ray film used for intraoral radiographic examinations?
1. Bitewing, inter-proximal, and periapical
 2. Inter-proximal, periapical and occlusal
 3. Panoramic and periapical
 4. Occlusal and panoramic
- 1-18. Unprocessed intraoral X-ray film should be stored in what type of container?
1. Plastic
 2. Metal
 3. Cardboard
 4. Lead lined
- 1-19. Which of the following X-ray materials should be saved and turned in as part of the Precious Metals Recovery Program (PMRP)?
1. The X-ray packets
 2. The fixer solution
 3. The lead from the X-ray packets
 4. Both 2 and 3 above
- 1-20. When radiographs are ordered for a female patient, what is the first patient preparation procedure to follow?
1. Have the patient remove her eyeglasses
 2. Have the patient remove her earrings
 3. Ask the patient if she has any type of denture
 4. Ask the patient if she is pregnant
- 1-21. To provide images of the crowns, roots, and support structures of the teeth, which of the following radiographs should be taken?
1. Inter-proximal
 2. Periapical
 3. Bitewing
 4. Occlusal
- 1-22. The bisecting angle technique is the preferred method and recommended for routine use when taking periapical radiographs.
1. True
 2. False
- 1-23. The paralleling device consists of which of the following parts?
1. A locator ring
 2. An indicator rod
 3. A bite-block
 4. All of the above

- 1-24. When assembling the paralleling device, the printed side of the film packet should be in what position?
1. Facing the plastic support in the film positioning slot
 2. Away from the plastic support in the film positioning slot
 3. Facing you, toward the top of the bite-block
 4. Away from you, toward the top of the bite-block
- 1-25. The assembled positioning device for the right maxillary quadrant can also be used in what other area of the mouth?
1. The mandibular right quadrant
 2. The mandibular left quadrant
 3. The maxillary left quadrant
 4. The maxillary right quadrant
- 1-26. What number of periapical radiographs make up a full-mouth series?
1. 7
 2. 9
 3. 14
 4. 18
- 1-27. When taking dental radiographs, which of the following milliamperage settings should be used as the normal setting?
1. 8 mA
 2. 10 mA
 3. 12 mA
 4. 15 mA
- 1-28. When taking a radiograph on an edentulous area, you should decrease the kVp setting by what number of degrees?
1. 1
 2. 2
 3. 5
 4. 7
- 1-29. When taking radiographs on a child, what kVp setting should normally be used?
1. 60
 2. 70
 3. 80
 4. 90
- 1-30. If the film packet is centered on the midline and parallel with the long axis, what area of the mouth is being X-rayed?
1. Maxillary cuspid area
 2. Maxillary incisor area
 3. Mandibular incisor area
 4. Both 2 and 3 above
- 1-31. When exposing the mandibular molar area, what is the position of the film packet?
1. Centered on the first molar
 2. Centered on the second molars
 3. Parallel with the short axis of the molars
 4. On the anterior edge including the mesial half of the cuspid
- 1-32. When a patient has a low palatal vault, which of the following special film placement procedures should you use?
1. Bend the film packet
 2. Place a cotton roll on the upper surface of the bite-block
 3. Place one cotton roll on each side of the bite-block
 4. Place a cotton roll on the lower surface of the bite-block
- 1-33. When taking radiographs, which of the following factors should you consider before using the bisecting-angle technique?
1. There are no paralleling devices available
 2. The patient cannot close mouth on the bite-block
 3. The patient has a rubber dam in place
 4. All of the above
- 1-34. Placing the film packet into the patient's mouth using the bisecting-angle technique should be accomplished by which of the following methods?
1. Using hemostats
 2. Sliding the film into position
 3. Using your thumb and index finger
 4. Having the patient assist in the placement of the film packet

- 1-35. When exposing a maxillary radiograph using the bisecting angle technique, in what manner should the patient hold the film in place?
1. Using the thumb of the hand opposite the tooth being radiographed
 2. Using the thumb of the hand on the same side as the tooth being radiographed
 3. Using the index finger of the hand on the same side as the tooth being radiographed
 4. Holding the X-ray holding device with the hand opposite the tooth being radiographed
- 1-36. What is vertical angulation?
1. The side-to-side positioning of the tube head
 2. The side-to-down positioning of the tube head
 3. The up-and-down positioning of the tube head
 4. The perpendicular positioning of the tube head
- 1-37. When it is parallel to the floor, what is the angulation of the tube head?
1. Zero degrees
 2. Minus degrees
 3. Plus degrees
 4. Both 2 and 3 above
- 1-38. What is the cause of elongated radiographic images?
1. Too much vertical angulation
 2. Too much horizontal angulation
 3. Too little vertical angulation
 4. Too little horizontal angulation
- 1-39. When using the bisecting-angle technique on a patient with a shallow vault, you should change the vertical angulation by how many degrees?
1. - 3 °
 2. - 5 °
 3. + 3 °
 4. + 5 °
- 1-40. The position of the patient's mid-sagittal plane must be perpendicular to the floor when exposing a periapical radiograph using the bisecting-angle technique.
1. True
 2. False
- 1-41. What landmark is used when exposing the maxillary bicuspid area?
1. The tip of the nose
 2. Beside the ala of the nose
 3. Below the pupil of the eye
 4. Below the outer angle of the eye and below the zygomatic bone
- 1-42. When exposing the mandibular bicuspid area using the bisecting-angle technique, what landmark should you use?
1. Below the pupil of the eye and 1/4 inch above the lower border of the mandible
 2. The tip of the chin and 1/4 inch above the lower border of the mandible
 3. Beside the ala of the nose and below the zygomatic bone
 4. Below the outer angle of the eye and below the zygomatic bone
- 1-43. Which type of radiograph records the coronal and cervical portions of both the maxillary and mandibular teeth?
1. Periapical
 2. Occlusal
 3. Interproximal
 4. Both 2 and 3 above
- 1-44. When you are using the paralleling device technique to expose inter-proximal radiographs, the film should be positioned in the patient's mouth so that the anterior edge of the film touches what area?
1. Mesial surface of the mandibular cuspid
 2. Mesial surface of the maxillary bicuspid
 3. Distal surface of the mandibular cuspid
 4. Distal surface of the maxillary bicuspid
- 1-45. When exposing interproximal radiographs using the bisecting-angle technique, what is the vertical angulation of the tube head?
1. -10° to -5°
 2. - 5° to 0°
 3. 0° to + 5°
 4. + 5° to +10°
- 1-46. What type of radiographic examination is conducted to depict fractures of the jaw or gross pathological conditions?
1. Bitewing
 2. Occlusal
 3. Periapical
 4. Interproximal

- 1-47. The occlusal film packet contains two X-ray films.
1. True
 2. False
- 1-48. What X-ray machine settings should you use when exposing a maxillary occlusal radiograph on an adult?
1. 10 mA, 87 kVp, and 60 impulses
 2. 12 mA, 90 kVp, and 60 impulses
 3. 10 mA, 90 kVp, and 60 impulses
 4. 12 mA, 87 kVp, and 40 impulses
- 1-49. What vertical angulation setting should you use when exposing a maxillary anterior occlusal radiograph?
1. + 50°
 2. + 55°
 3. + 60°
 4. + 65°
- 1-50. When exposing a maxillary posterior occlusal radiograph, you should use what vertical angulation setting?
1. + 75°
 2. + 70°
 3. + 65°
 4. + 60°
- 1-51. When exposing a mandibular anterior occlusal radiograph, what vertical angulation should you use?
1. -10°
 2. - 5°
 3. 0°
 4. + 5°
- 1-52. Which of the following surfaces located in the darkroom should you disinfect daily?
1. Counters
 2. Doorknobs
 3. Light switches
 4. All of the above
- 1-53. Automatic film processors with daylight loaders should be used to develop all radiographs in facilities that have darkrooms.
1. True
 2. False
- 1-54. Which of the following methods should you use to decontaminate a fabric light shield sleeve?
1. Gas sterilization
 2. Steam sterilization
 3. Dry heat sterilization
 4. Dispose of the fabric light shield sleeve
- 1-55. You should change the plastic wrap covering on the tube head at what minimum frequency?
1. Daily
 2. Twice a day
 3. Every hour
 4. After each patient
- 1-56. A safelight is the only safe source of illumination used in the darkroom when processing radiographs.
1. True
 2. False
- 1-57. When checking for light leaks in the darkroom, you should leave the penny on the X-ray film for at least what number of minutes?
1. One
 2. Five
 3. Three
 4. Seven
- 1-58. Which of the following methods is most commonly used to process dental radiographs in the Navy?
1. Laser processing
 2. Manual processing
 3. Computer processing
 4. Automatic processing
- 1-59. After turning on the automatic processing unit, it should take what number of minutes to reach the proper operating temperature?
1. 5 to 10 minutes
 2. 10 to 15 minutes
 3. 15 to 20 minutes
 4. 25 to 30 minutes

- 1-60. You should wait what number of seconds between films before inserting another film into the automatic processor?
1. 10
 2. 12
 3. 15
 4. 30
- 1-61. The developer and fixer solutions in the automatic processor should be changed at what minimum frequencies?
1. Daily
 2. Weekly
 3. Biweekly
 4. Every 3 to 4 weeks
- 1-62. The processing solutions used in the automatic processor are the same as those used in the manual processing procedure.
1. True
 2. False
- 1-63. The cleaning of the roller transports and the solution tanks in the automatic processor are accomplished at what minimum intervals?
1. Twice a day
 2. Daily
 3. Weekly
 4. Monthly
- 1-64. When the green light on the control panel of a small automatic processor is alternating between flickering and full on, what does this indicate?
1. Optimum 74° to 76°F temperature is being maintained
 2. The processing solutions are ready to be changed
 3. The temperature of the water has reached 80°F
 4. The processor is ready to be secured

- A. Herringbone image
 B. Reticulation
 C. Stained
 D. Fogged

Figure 1 -A

IN ANSWERING QUESTIONS 1-65 THROUGH 1-69, SELECT THE FAULTY RADIOGRAPH TERM FROM FIGURE 1-A THAT MATCHES THE DESCRIPTION GIVEN AS THE QUESTION. RESPONSES MAY BE USED MORE THAN ONCE.

- 1-65. The film was held too close to the safelight.
1. A
 2. B
 3. C
 4. D
- 1-66. The wrong side of the film packet was exposed.
1. A
 2. B
 3. C
 4. D
- 1-67. The film was exposed to stray radiation.
1. A
 2. B
 3. C
 4. D
- 1-68. The film was taken from a warm developer to a cold rinse.
1. A
 2. B
 3. C
 4. D
- 1-69. The film was processed in dirty solutions.
1. A
 2. B
 3. C
 4. D
- 1-70. When mounting radiographs, the raised dimple should be facing you.
1. True
 2. False
- 1-71. Which teeth could be identified radiographically by a large white region caused by the bone of the nasal septum?
1. Mandibular incisors
 2. Mandibular cuspids and bicuspid
 3. Maxillary incisors
 4. Maxillary incisors and bicuspid

1-72. Which of the following radiographs should be taken to provide an extraoral image of both dental arches and the temporomandibular joints?

1. Inter-proximal
2. Panoramic
3. Occlusal
4. Bitewing

1-73. When performing the operational checks on a panoramic X-ray machine, remove the lead cap of the collimator.

1. True
2. False

1-74. To prevent overheating of the panoramic X-ray head, you should wait at least what number of minutes between exposures?

1. 5
2. 6
3. 7
4. 8

1-75. You should use a soft dry cloth and wipe the metal surfaces of the panoramic X-ray machine at least how often?

1. Daily
2. Weekly
3. Twice a week
4. After each patient